

oligonucleotide compounds across said selected nucleic acid, or iii) a process of selection based on targeting a functional region of said selected nucleic acid;

an automated synthesizer that receives said synthesis instructions from said computer network and synthesizes a set of real oligonucleotides corresponding to said virtual set of oligonucleotides having reduced members; and

an apparatus that accepts said set of real oligonucleotides and performs at least one procedure for each of said real oligonucleotides wherein said procedure identifies particular members of said set possessing said at least one property, wherein said procedure is computer-controlled polymerase chain reaction or computer-controlled enzyme-linked immunosorbent assay.

69. (Amended) The system of claim 68 wherein said computer network comprises a computer engine, database server, and file server.

70. (Amended) The system of claim 68 wherein the steps of preparing a set of real oligonucleotides and performing at least one procedure are performed robotically.

71. (Amended) The system of claim 68 wherein each of said at least one property is a physical, chemical or biological property.

73. (Amended) The system of claim 68 wherein said computer network reduces the members of said virtual library of oligonucleotides by a process of selection based on a uniform distribution of oligonucleotide compounds across said selected nucleic acid.

74. (Amended) The system of claim 68 wherein said computer network reduces the members of said virtual library of oligonucleotides by a process of selection based on targeting a functional region of said selected nucleic acid.

75. (Amended) The system of claim 74 wherein said functional region is the transcription start site, 5' cap, start codon, 5'UTR, 3'UTR, stop codon, 5' splice site or polyadenylation site.
76. (Amended) The system of claim 68 wherein said computer network applies selected chemical modifications to said virtual oligonucleotide compounds to generate chemically modified virtual oligonucleotides.
77. (Amended) The system of claim 68 wherein said selected nucleic acid is genomic DNA, cDNA, polymerase chain reaction product, expressed sequence tag, mRNA or structural RNA.
78. (Amended) The system of claim 68 wherein said selected nucleic acid is a human nucleic acid.
79. (Amended) The system of claim 68 further comprising a second apparatus selected from the group consisting of liquid chromatography, optical density reader, mass spectroscopy, gel fluorescence and scintillation imaging, and capillary gel electrophoresis.
80. (Amended) The system of claim 68 wherein said property is modulating said selected nucleic acid.
81. (Amended) The system of claim 68 wherein said computer network searches at least one database for nucleic acids homologous to said selected nucleic acid.
82. (Amended) The system of claim 68 wherein said computer network searches at least one database for alternative transcripts.